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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,071	04/08/2004	Daniel J. Fisher	59554US002	9195
32692	7590	02/24/2005	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY			MULLER, BRYAN R	
PO BOX 33427			ART UNIT	
ST. PAUL, MN 55133-3427			PAPER NUMBER	

3723

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/821,071	<b>Applicant(s)</b> FISHER, DANIEL J.	
	<b>Examiner</b> Bryan R Muller	<b>Art Unit</b> 3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) 6, 20 and 31 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-7, 13-15, 17-21, 26, 28-32, 35 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Lampert (3,522,681).
2. In reference to claim 1, Lampert discloses an attachment system for attaching an abrasive article (9) to a sanding tool, said attachment system comprising a first major surface (8) including an attachment region (14) with attachment material for attachment with an associated mating surface, and a non- attachment region (6) along at least a portion of an edge of said first major surface for forming an attachment with the associated mating surface that is weaker than the attachment between the attachment region and the associated mating surface, whereby a user can grasp a portion of the abrasive article adjacent the non-attachment region and thereby separate the abrasive article from the first major surface.
3. In reference to claim 2, the attachment system comprises a first major surface of a conversion pad (4) having a second major surface adapted to engage the sanding tool.
4. In reference to claim 3, Lampert further discloses the attachment system, as discussed supra, wherein said associated mating surface comprises a first major

surface of the abrasive article, said abrasive article having a second major surface opposite said first major surface including abrasive for abrading a work surface.

5. In reference to claim 4, Lampert further discloses the attachment system, as discussed supra, wherein said non-attachment region comprises a continuous edge region extending around the entire perimeter of said first major surface.

6. In reference to claim 5, Lampert further discloses the attachment system, as discussed supra, wherein said attachment surface comprises a plurality of mechanical fastening elements.

7. In reference to claim 6, Lampert further discloses the attachment system, as discussed supra, wherein said mechanical fastening elements comprise hook-type fastening elements (as seen in fig. 4, both sides of the fastening element act as both hook and loop fasteners).

8. In reference to claim 7, Lampert further discloses the attachment system, as discussed supra, wherein said first major surface is circular and said non-attachment region comprises an annular region extending around the entire perimeter of said first major surface.

9. In reference to claim 13, Lampert further discloses the attachment system, as discussed supra, wherein said non-attachment region is free of attachment material.

10. In reference to claim 14, Lampert further discloses the attachment system, as discussed supra, wherein said attachment region and said non-attachment region are co-planar.

11. In reference to claim 15, Lampert further discloses the attachment system, as discussed supra, wherein the conversion pad and abrasive article have substantially the same profile and have aligned outer edges.

12. In reference to claim 17, Lampert further discloses the attachment system, as discussed supra in reference to claim 1, wherein said attachment system comprises a major surface of the abrasive article, said abrasive article having a second major surface opposite said first major surface including abrasive for abrading a work surface.

13. In reference to claim 18, Lampert further discloses the attachment system, as discussed supra, wherein said associated mating surface comprises a surface of a conversion pad.

14. In reference to claim 19, Lampert further discloses the attachment system, as discussed supra, wherein said non-attachment region comprises a continuous edge region around the entire perimeter of said major surface.

15. In reference to claim 20, Lampert further discloses the attachment system, as discussed supra, wherein said attachment surface comprises a loop-type fabric material adapted to mate with an associated mating surface comprising a hoop-type fastening elements (as seen in fig. 4, both sides of the fastening element act as both hook and loop fasteners).

16. In reference to claim 21, Lampert further discloses the attachment system, as discussed supra, wherein said first major surface is circular and said non-attachment region comprises an annular region extending around the entire perimeter of said first major surface.

17. In reference to claim 26, Lampert further discloses the attachment system, as discussed supra, wherein said non-attachment region is free of attachment material.

18. In reference to claim 28, Lampert discloses a conversion pad (14) for attaching an abrasive (9) article to a back-up pad (18), said conversion pad comprising a pad having first and second opposed major surfaces, said first major surface being adapted for engagement with the back-up pad and said second major surface including an attachment surface including attachment material for attaching said conversion pad with the abrasive article and a non-attachment surface along at least a portion of an edge region of said second surface, thereby to allow a user to grasp the abrasive article and separate the abrasive article from the conversion pad.

19. In reference to claim 29, Lampert further discloses the conversion pad, as discussed supra, wherein said non-attachment region comprises a continuous edge region extending the entire perimeter of said second surface.

20. In reference to claim 30, Lampert further discloses the conversion pad, as discussed supra, wherein said attachment surface comprises a plurality of mechanical fastening elements.

21. In reference to claim 31, Lampert further discloses the conversion pad, as discussed supra, wherein said mechanical fastening elements comprise hook-type fastening elements.

22. In reference to claim 32, Lampert further discloses the conversion pad, as discussed supra, wherein said conversion pad is circular and said non-attachment

region comprises an annular region extending along the entire perimeter of said second surface.

23. In reference to claim 35, Lampert discloses abrasive article (9) for attachment to a conversion pad (4), said abrasive article comprising a backing having first and second opposed major surfaces, said first major surface including abrasive for abrading a work surface and said second major surface including an attachment surface including attachment material for attaching said abrasive article with the conversion pad and a non-attachment surface along at least a portion of an edge region of said second surface, thereby to allow a user to grasp the abrasive article and thereby separate the abrasive article from the conversion pad.

24. In reference to claim 36, Lampert further discloses the abrasive article, as discussed supra, wherein said attachment material comprises a loop fabric material (as seen in fig. 4, both sides of the fastening element act as both hook and loop fasteners).

25. Claims 37-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Takizawa (6,186,878).

26. In reference to claim 37, Takizawa discloses an abrading tool including a back-up pad, a conversion pad (108) connected with the back-up pad, and an abrasive article connected with the conversion pad, wherein the conversion pad comprises a pad having first and second opposed major surfaces, said first major surface including abrasive for abrading a work surface and said second major surface including an attachment surface including attachment material for attaching said conversion pad with

the abrasive article and a non-attachment surface along at least a portion of an edge region of said second surface, thereby to allow a user to grasp the abrasive article and thereby separate the abrasive article from the conversion pad.

27. In reference to claim 38, Takizawa discloses the abrading tool, as discussed supra, and the abrading tool disclosed by Takizawa is inherently capable of being an edger sander because of the shape.

28. In reference to claim 39, Takizawa discloses the abrading tool, as discussed supra, wherein the conversion pad and the abrasive article have substantially the same profile and have aligned outer edges.

29. In reference to claim 40, Takizawa discloses the combination of a conversion pad (108) and an abrasive article (109/110), said conversion pad and abrasive article including mating surfaces (108b) defining an attachment area and non-mating surfaces (111) defining a non-attachment area, said non-attachment region being provided along at least a portion of an adjacent edge region between the conversion pad and the abrasive article, thereby to allow a user to grasp the abrasive article and separate the abrasive article from the conversion pad.

### ***Claim Rejections - 35 USC § 103***

30. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



31. Claims 8, 9, 22, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lampert ('681) in view of Long (6,210,389).

32. In reference to claims 8, 9 and 22, Lampert discloses the attachment system as discussed supra, but fails to disclose that the non-attachment region includes fastening elements that have been bent to inhibit attachment of said fastening elements with said associated mating surfaces. Long discloses a fastening system with a lifting region that provides a hook and loop fastening system with an attachment region (52) and a non-attachment region (41) wherein the hook-type fastening elements of the non-attachment region are bent to inhibit attachment of said fastening elements. The hook-type fastening elements are easily bent to inhibit fastening, so it is easy to modify the portion to be non-attaching, thus, any desired portion of the surface may become the non-attachment portion. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide one entire surface of the Lampert invention with hook-type fastening elements and to bend the hook-type elements in the region that is desired to be non-attaching. As taught by Long, this allows any region on the surface to become the non-attaching region.

33. In reference to claim 33, the conversion pad of claim 28, as disclosed by Lampert fails to disclose that the non-attachment region includes fastening elements that have been altered to inhibit attachment of the conversion pad with the abrasive pad. Long discloses the fastening system and teaches the advantages of bending the fastening elements, as discussed supra. Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to bend the fastening elements of Lampert to provide the non-attachment regions, as taught by Long.

34. In reference to claim 34, Lampert further discloses that the conversion pad and the abrasive article have substantially the same profile and have aligned outer edges.

35. Claims 8,10, 11, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lampert ('681) in view of Butler (5,731,056).

36. Lampert discloses the attachment system as discussed supra in reference to claims 2 and 17, but fails to disclose that the non-attachment region includes fastening elements that have been altered to inhibit attachment of said fastening elements with said associated mating surfaces by applying a coating material to the attachment material. Butler discloses a rigid structure attachment wherein one rigid structure (72) is provided with hook-type fastening elements (74) and a flange (76) having multiple apertures (80) covering the hook-type fastener region such that only desired sections of the loop fasteners are exposed to the hook-type fasteners (84) that are connected to the second rigid structure. The spacing created between attaching regions by the flange accommodates variances in vibration and bending between the rigid structures to prevent damage or debonding to either of the structures or the hook or loop-type fasteners. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the surface of the Lampert invention that possesses the loop-type fastening elements with a sheet of material (flange) possessing multiple apertures that will create multiple attachment and non-attachment regions that

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would prevent damage or debonding to either of the structures or the hook or loop-type fasteners as taught by Butler.

37. Claims 8, 10, 12, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lampert ('681) in view of Banfield (5,922,436).

38. Lampert discloses the attachment system as discussed supra in reference to claims 2 and 17, but fails to disclose that the non-attachment region includes fastening elements that have been altered to inhibit attachment of said fastening elements with said associated mating surfaces by applying a coating material to the attachment material. Banfield discloses a means for covering and encasing engaging elements of a hook and loop type attachment system, in a manner capable of preventing the covered elements from attaching to associated surfaces, using a hardenable liquid that is removable without damaging the effectiveness of the elements (claim 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to produce the non-attachment regions of the Lampert invention by coating the fastening elements with a similar hardenable liquid, as taught by Banfield, so that the liquid may be removed to increase the size of the attachment region or change the location or size of the non-attachment region as desired to accommodate different working conditions. For example, it would be desirable to increase attachment regions for a high grit sanding operation that would place high shear forces on the attachment system that may cause the abrasive article from becoming detached during operation or decrease the region in the case that the abrasive article may need to be regularly

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replaced to make the removal and re-application of the abrasive article faster and easier.

39. Claims 16 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lampert ('681) in view of Manor (5,807,161).

40. In reference to claims 16 and 27, the attachment system disclosed to Lampert in reference to claims 2 and 17, respectively, fails to disclose that the attachment material may be an adhesive. Manor discloses a reversible back up pad, and teaches that bath sides are to be capable of attachment to either a sanding tool or an abrasive article using either a hook and loop fastening system or an adhesive. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the attachment system of Lampert in a way that would allow the attachment material to be an adhesive or a hook and loop fastening system to allow the pad to attach to sanding articles that are adapted for hook and loop fasteners or those that require an adhesive backing to make the attachment system more universal.

### ***Claim Objections***

1. Claims 6 and 31 are objected to because of the following informalities: The first occurrence of the term, "comprises" in the second line of both claims should be replaced with the term, "comprise". Appropriate correction is required.

2. Claim 20 is objected to because of the following informalities: The first occurrence of the term, "hoop" should be changed to the term, "hook". Appropriate correction is required.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan R Muller whose telephone number is (571) 272-4489. The examiner can normally be reached on M-Th and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J Hail III can be reached on (571) 272-4485. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BRM *BRM*  
2/21/2005

  
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